



## Stradbroke CE Primary School

### Science Curriculum – Progression of skills and knowledge

#### Aims

- to develop scientific knowledge and conceptual understanding through biology, chemistry and physics areas of science
- to develop scientific enquiry skills to answer scientific questions about the world around us
- to develop scientific knowledge required to understand science today and into the future

#### Contents:

- 1) Progression through year groups (subject knowledge)
- 2) Progression through areas of Science (with links to other areas in other year groups)
  - a. Working Scientifically
  - b. Plants
  - c. Animals including Humans
  - d. Seasonal Changes/ Earth and Space
  - e. Forces and Magnets
  - f. Living Things and their Habitats
  - g. Rocks
  - h. Materials – Everyday/ Properties and Changes/ States of Matter
  - i. Light
  - j. Sound
  - k. Electricity
  - l. Evolution and Inheritance



## PROGRESSION THROUGH YEAR GROUPS

### Reception – Seasonal Changes (The Natural World)

- understand some important processes and changes in the natural world around them, including the seasons

### Reception – Plants

- explore the natural world around them, making observations and drawing pictures of plants

### Reception – Animals including Humans (The Natural World)

- explore the natural world around them, making observations and drawing pictures of animals
- manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices

### Reception – Everyday materials (The Natural World)

- Understand some important processes and changes in the natural world around them, including changing states of matter.

### Y1 - Seasonal Changes

- observe changes across four seasons
- observe and describe weather associated with the seasons and how day length varies

### Y1 - Plants

- identify and name a variety of common wild and garden plants- deciduous and evergreen trees
- identify and describe the basic structure of a variety of common flowering plants , including trees

### Y1 – Animals including humans

- identify and name a variety of animals including fish, amphibians, reptiles, birds and mammals
- identify those that are carnivores, herbivores and omnivores.
- Describe and compare the structure of a variety of common animals.
- Identify, draw, name and label the basic parts of the human body and link to senses.

### Y1 – Everyday materials

- Distinguish between an object and the material it is made from
- Identify and name a variety of everyday materials, including wood, glass, plastic, metal, water and rock and describe their physical properties
- Compare and group everyday materials on basis of simple physical properties

### Y2 - Plants

- observe and describe how seeds and bulbs grow into mature plants
- find out and describe how plants need water, light and a suitable temperature to grow and stay healthy

### Y2 - Living things and their Habitats

- Explore and compare the differences between things that are living, dead, and things that have never been alive
- Identify that most living things live in habitats to which they are suited and provide them with their basic needs, and how they depend on each other



- Identify and name a variety of plants and animals in their habitats including micro- habitats
- Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain
- Identify and name different sources of food

#### Y2 - Animals including Humans

- Notice that animals have offspring which grow into adults
- Find out about and describe the basic needs of animals for survival (water, food and air)
- Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene

#### Y2 - Use of every day materials

- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular purposes
- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending , twisting and stretching

#### Y3 - Plants

- Identify and describe the functions of different parts of flowering plants : roots, stem/trunk, leaves and flowers
- Explore the part that flowers play in the life cycle of flowering plants – pollination, seed formation and dispersal
- Explore the requirements of plants for life and growth (air, light, water, nutrients from soil and room to grow) and how they vary from plant to plant
- Investigate the way in which water is transported within plants

#### Y3 - Animals including Humans

- Identify that animals including humans need the right types and amount of nutrition and that they cannot make their own food: they get nutrition from what they eat
- Identify that humans and some other animals have skeletons and muscles for support, protection and movement

#### Y3 - Rocks

- Compare and group together different types of rocks based on appearance and simple physical properties
- Describe how fossils are formed
- Recognise that soils are made from rocks and organic matter

#### Y3 – Light

- Recognise that they need light in order to see things and that dark is the absence of light
- Notice that light is reflected from surfaces
- Recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- Recognise that shadows are formed when the light from a light source is blocked by an opaque object
- Find patterns in the way that the size of shadows change

#### Y3 - Forces and Magnets

- Compare how things move on different surfaces



- Notice that some forces need contact between two objects, but that magnetic forces can act at a distance
- Observe how magnets repel or attract each other and attract some materials but not others
- Compare and group together a variety of every day materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials
- Describe magnets as having two poles
- Predict whether two magnets will repel or attract each other – depending on which poles are facing

#### Y4 - Living things and their Habitats

- Recognise that living things can be grouped in a variety of ways
- Explore and use classification keys to help group, identify and name a variety of living things locally and more widely in the environment
- Recognise that environments can change and that this can pose danger to living things

#### Y4 –Animals including Humans

- Construct and interpret a variety of food chains
- Identify producers, predators and prey
- Describe the simple functions of the basic parts of the digestive system in humans
- Identify the different types of teeth in humans and their simple functions

#### Y4 -States of Matter

- Compare and group materials together – solids, liquids and gases
- Observe changes of state during heating and cooling and measure/research temperatures at which this happens (Celsius)
- Identify the part played by evaporation and condensation in the water cycle.
- Associate the rate of evaporation with temperature

#### Y4 -Sound

- Identify how sounds are made, associating some of them with something vibrating
- Recognise that vibrations from sounds travel through a medium to the ear
- Find patterns between pitch of a sound and the features of the object that produced it
- Find patterns between the volume of a sound and the strength of the vibrations that produced it
- Recognise that sound gets fainter as the distance from the sound source increases

#### Y4 –Electricity

- Identify common appliances that run on electricity
- Construct a simple series electrical circuit, identifying and naming basic parts – cells, wires, bulbs, switches and buzzers
- Identify whether or not a lamp will light in a simple series circuit –based on whether or not the lamp is part of a complete loop with a battery



- Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
- Recognise some common conductors and insulators. Identify metals as good conductors

#### Y5 - Living things and their Habitats

- Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird
- Describe the life process of reproduction in some plants and animals

#### Y5 - Animals including Humans

- Describe the changes as humans develop from birth to old age

#### Y5 - Use of every day materials- properties and changes

- Compare and group everyday materials on basis of properties – hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets
- Know that some materials will dissolve to form a solution
- Describe how to recover a substance from a solution
- Use knowledge of solids, liquids and gases to describe how mixtures might be separated – filtering, sieving and evaporating
- Give reasons based on evidence from comparative and fair tests, for the particular uses of everyday materials – metals, woods, plastic
- Demonstrate dissolving, mixing and changes of state are reversible changes
- Explain that some changes result in the formation of new materials, and this is not usually reversible including changes associated with burning and the actions of acid on bicarbonate of soda

#### Y5 - Earth and Space

- Describe the movement of the Earth and other planets, relative to the Sun
- Describe the movement of the Moon relative to the Earth
- Describe the Earth, Sun and Moon as approximate spherical bodies
- Use the Earth's rotation to explain day and night and the apparent movement of the sun across the sky

#### Y5 – Forces

- Explain the force of gravity making unsupported objects fall towards the earth
- Identify the effects of air resistance, water resistance and friction that act between moving surfaces
- Recognise that some mechanisms, including pulleys, gears and levers allow a smaller force to have a greater effect

#### Y6 - Living things and their Habitats

- Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals
- Give reasons for classifying plants and animals based on specific characteristics

#### Y6 - Animals including Humans

- Describe the ways in which nutrients and water are transported in animals, including humans



- Identify and name the main parts of the human circulatory system and describe the functions of the heart, blood vessels and blood.
- Recognise the impact of diet, exercise, drugs and lifestyle on the way that bodies function.

#### Y6 - Evolution and Inheritance

- Recognise that living things have changed over time and that fossils provide information about living things on earth millions of years ago
- Recognise that living things produce off-spring of the same kind, but not normally identical to parents
- Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution

#### Y6 – Electricity

- Associate the brightness of a lamp or volume of a buzzer with the number and voltage of the cells used in the circuit
- Compare and give reasons for how components function- brightness of bulbs, loudness of buzzers and the on/off position of switches
- Use recognised symbols when representing a simple circuit in a diagram

#### Y6 – Light

- Recognise that light appears to travel in straight lines and that objects are seen because they give out or reflect light into the eye
- Know that we see things because light travels from light sources to our eyes, or from light sources to objects and then to our eyes
- Use the idea that light travels in straight lines to explain that shadows have the same shape as the objects that cast them



## PROGRESSION THROUGH AREAS OF SCIENCE

### Working Scientifically

<p>Reception Children:</p> <ul style="list-style-type: none"><li>• Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions</li><li>• Make comments about what they have heard and ask questions to clarify their understanding</li><li>• Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary</li><li>• Offer explanations for why things might happen, making use of recently introduced vocabulary</li><li>• Express their ideas and feelings about their experiences</li><li>• Describe their immediate environment using knowledge from observation</li><li>• Explore the natural world around them</li></ul>	<p>Key Stage 1 Children:</p> <ul style="list-style-type: none"><li>• Ask simple questions and recognise that the answer can be given in different ways</li><li>• Use equipment and make observations of what happens</li><li>• Carry out simple tests</li><li>• Identify and classify</li><li>• Use their observations and ideas to suggest a variety of possible answers to questions asked</li><li>• Gather and record data to help to answer questions</li></ul>	<p>Lower Key Stage 2 Children:</p> <ul style="list-style-type: none"><li>• Ask relevant questions and use different types of scientific enquiry to answer them</li><li>• Set up practical enquiries, comparing results and considering fair tests</li><li>• Make careful and systematic observations, take measurements using standard units</li><li>• Use equipment including data-loggers and thermometers</li><li>• Collect, record, classify and present data in a variety of ways to help answer questions</li><li>• Record findings- scientific language, drawings, labelled diagrams, keys, bar charts, tables</li><li>• Report on findings; results and conclusions from their enquiries using a range of skills and methods –oral and written presentations</li><li>• Use results to make simple conclusions, make predictions, suggest improvements, ask further questions</li><li>• Identify differences, similarities or changes</li></ul>	<p>Upper Key Stage 2 Children:</p> <ul style="list-style-type: none"><li>• Plan different types of enquiry to answer questions</li><li>• Recognise and control variables where necessary</li><li>• Use scientific equipment to measure with increased accuracy and precision</li><li>• Record more complex data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</li><li>• Use results to make predictions about what might happen and set up further comparative and fair tests</li><li>• Report and present findings from enquiries – conclusions, casual relationships, explanations of results, degree if trust in results</li><li>• Report orally, written forms, presentations</li><li>• Identify scientific evidence that has been used to support or refute ideas or arguments</li></ul>
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- Use straightforward evidence to answer questions or to support findings

## Plants

Rec	<ul style="list-style-type: none"> <li>• explore the natural world around them, making observations and drawing pictures of plants</li> </ul>
Y1	<ul style="list-style-type: none"> <li>• identify and name a variety of common wild and garden plants- deciduous and evergreen trees</li> <li>• identify and describe the basic structure of a variety of common flowering plants , including trees</li> </ul>
Y2	<ul style="list-style-type: none"> <li>• observe and describe how seeds and bulbs grow into mature plants</li> <li>• find out and describe how plants need water , light and a suitable temperature to grow and stay healthy</li> </ul>
Y3	<ul style="list-style-type: none"> <li>• Identify and describe the different functions of different parts of flowering plants : roots, stem/trunk, leaves and flowers, including the part that they play in the life cycle of flowering plants – pollination, seed formation and dispersal</li> <li>• explore the requirements of plants for life and growth and how they vary from plant to plant</li> <li>• Investigate the way in which water is transported</li> <li>• Explore the part that flowers play in the lifecycle of a flowering plant, including pollination, seed formation and seed dispersal</li> </ul>
Y4	<p>LINKS - Y4 - <a href="#">Living things and their Habitats</a></p> <ul style="list-style-type: none"> <li>• <i>Recognise that living things can be grouped in a variety of ways</i></li> <li>• <i>Explore and use classification keys to help group, identify and name a variety of living things locally and more widely in the environment</i></li> <li>• <i>Recognise that environments can change and that this can pose danger to living things</i></li> </ul>
Y5	<p>LINKS -Y5 - <a href="#">Living things and their Habitats</a></p> <ul style="list-style-type: none"> <li>• Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</li> <li>• <i>Describe the life process of reproduction in some plants and animals</i></li> </ul>
Y6	<p>LINKS -Y6 - <a href="#">Living things and their Habitats</a></p> <ul style="list-style-type: none"> <li>• Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, <i>plants</i> and animals</li> <li>• Give reasons for classification based on specific characteristics</li> </ul> <p>LINKS - Y6 - <a href="#">Evolution and Inheritance</a></p> <ul style="list-style-type: none"> <li>• <i>Recognise that living things have changed over time and that fossils provide information about living things on earth millions of years ago</i></li> <li>• <i>Recognise that living things produce off-spring of the same kind, but not normally identical to parents</i></li> <li>• <i>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</i></li> </ul>





## Animals including Humans

Rec	<ul style="list-style-type: none"><li>• explore the natural world around them, making observations and drawing pictures of animals</li><li>• manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices</li></ul>
Y1	<ul style="list-style-type: none"><li>• identify and name a variety of animals including fish, amphibians, reptiles, birds and mammals</li><li>• identify those that are carnivores, herbivores and omnivores.</li><li>• Describe and compare the structure of a variety of common animals.</li><li>• Identify, draw, name and label the basic parts of the human body and link to senses.</li></ul>
Y2	<ul style="list-style-type: none"><li>• Notice that animals have offspring which grow into adults</li><li>• Find out about and describe the basic needs of animals for survival (water, food and air)</li></ul> <p>LINKS -Y2 - <a href="#">Living things and their Habitats</a></p> <ul style="list-style-type: none"><li>• <i>Explore and compare the differences between things that are living, dead, and things that have never been alive</i></li><li>• <i>Identify that most living things live in habitats to which they are suited and provide them with their basic needs, and how they depend on each other</i></li><li>• <i>Identify and name a variety of plants and animals in their habitats including micro- habitats</i></li><li>• <i>Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain</i></li><li>• <i>Identify and name different sources of food</i></li></ul>
Y3	<ul style="list-style-type: none"><li>• Identify that animals including humans need the right types and amount of nutrition and that they cannot make their own food: they get nutrition from what they eat</li></ul>
Y4	<ul style="list-style-type: none"><li>• Construct and interpret a variety of food chains</li><li>• Identify producers, predators and prey</li><li>• Describe the simple functions of the basic parts of the digestive system in humans</li><li>• Identify the different types of teeth in humans and their simple functions</li></ul> <p>LINKS - Y4 - <a href="#">Living things and their Habitats</a></p> <ul style="list-style-type: none"><li>• <i>Recognise that living things can be grouped in a variety of ways</i></li><li>• <i>Explore and use classification keys to help group, identify and name a variety of living things locally and more widely in the environment</i></li><li>• <i>Recognise that environments can change and that this can pose danger to living things</i></li></ul>
Y5	<ul style="list-style-type: none"><li>• Describe the changes as humans develop from birth to old age</li></ul> <p>LINKS -Y5 - <a href="#">Living things and their Habitats</a></p> <ul style="list-style-type: none"><li>• <i>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</i></li><li>• <i>Describe the life process of reproduction in some plants and animals</i></li></ul>
Y6	<ul style="list-style-type: none"><li>• Describe the ways in which nutrients and water are transported in animals, including humans</li></ul>



	<ul style="list-style-type: none"> <li>• <b>Identify and name the main part of the human circulatory system and describe the functions of the heart, blood vessels and blood.</b></li> <li>• <b>Recognise the impact of diet, exercise, drugs and lifestyle on the way that bodies function.</b></li> </ul> <p>LINKS -Y6 - <a href="#">Living things and their Habitats</a></p> <ul style="list-style-type: none"> <li>• <i>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals</i></li> <li>• <i>Give reasons for classification based on specific characteristics</i></li> </ul> <p>LINKS - Y6 - <a href="#">Evolution and Inheritance</a></p> <ul style="list-style-type: none"> <li>• <i>Recognise that living things have changed over time and that fossils provide information about living things on earth millions of years ago</i></li> <li>• <i>Recognise that living things produce off-spring of the same kind, but not normally identical to parents</i></li> <li>• <i>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</i></li> </ul>
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### Seasonal Changes/ Earth and Space

<b>Rec</b>	<ul style="list-style-type: none"> <li>• <b>understand some important processes and changes in the natural world around them, including the seasons</b></li> </ul>
<b>Y1</b>	<ul style="list-style-type: none"> <li>• <b>observe changes across four seasons</b></li> <li>• <b>observe and describe weather associated with the seasons and how day length varies</b></li> </ul>
<b>Y2</b>	<p>LINKS -Y2 - <a href="#">Plants</a></p> <ul style="list-style-type: none"> <li>• <i>observe and describe how seeds and bulbs grow into mature plants</i></li> <li>• <i>find out and describe how plants need water , light and a suitable temperature to grow and stay healthy</i></li> </ul> <p>LINKS Y2 - <a href="#">Animals including Humans</a></p> <ul style="list-style-type: none"> <li>• <i>Notice that animals have offspring which grow into adults</i></li> <li>• <i>Find out about and describe the basic needs of animals for survival (water, food and air)</i></li> </ul>
<b>Y3</b>	<p>LINKS - Y3 - <a href="#">Plants</a></p> <ul style="list-style-type: none"> <li>• Identify and describe the different functions of different parts of flowering plants : roots, stem/trunk, leaves and flowers, including the part that they play in the life cycle of flowering plants – pollination, seed formation and dispersal</li> <li>• <i>explore the requirements of plants for life and growth and how they vary from plant to plant</i></li> <li>• Investigate the way in which water is transported</li> <li>• <i>Explore the part that flowers play in the lifecycle of a flowering plant, including pollination, seed formation and seed dispersal</i></li> </ul>
<b>Y4</b>	<p>LINKS - Y4 - <a href="#">States of Matter</a></p> <ul style="list-style-type: none"> <li>• Compare and group materials together – solids, liquids and gases</li> <li>• <i>Observe changes of state during heating and cooling and measure/research temperatures at which this happens (Celsius)</i></li> <li>• <i>Identify the part played by evaporation and condensation in the water cycle.</i></li> </ul>



	<ul style="list-style-type: none"><li>• Associate the rate of evaporation with temperature</li></ul>
Y5	<p><b>Y5 - <a href="#">Earth and Space</a></b></p> <ul style="list-style-type: none"><li>• Describe the movement of the Earth and other planets, relative to the Sun</li><li>• Describe the movement of the Moon relative to the Earth</li><li>• Describe the Earth, Sun and Moon as approximate spherical bodies</li><li>• Use the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</li></ul> <p>LINKS - Y5 - <a href="#">Living things and their Habitats</a></p> <ul style="list-style-type: none"><li>• Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</li><li>• Describe the life process of reproduction in some plants and animals</li></ul>
Y6	<p>LINKS -Y6 - <a href="#">Evolution and Inheritance</a></p> <ul style="list-style-type: none"><li>• Recognise that living things have changed over time and that fossils provide information about living things on earth millions of years ago</li><li>• Recognise that living things produce off-spring of the same kind, but not normally identical to parents</li><li>• Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</li></ul> <p>LINKS -Y6 – <a href="#">Light</a></p> <ul style="list-style-type: none"><li>• Recognise that light appears to travel in straight lines and that objects are seen because they give out or reflect light into the eye</li><li>• Know that we see things because light travels from light sources to our eyes, or from light sources to objects and then to our eyes</li><li>• Use the idea that light travels in straight lines to explain that shadows have the same shape as the objects that cast them</li></ul>

### **Forces and Magnets**

Y1	<p>LINKS - Y1 – <a href="#">Everyday materials</a></p> <ul style="list-style-type: none"><li>• Distinguish between an object and the material it is made from</li><li>• Identify and name a variety of everyday materials, including wood, glass, plastic, metal, water and rock and describe their physical properties</li><li>• Compare and group everyday materials on basis of simple physical properties</li></ul>
Y2	<p>LINKS - Y2 -<a href="#">Use of every day materials</a></p> <ul style="list-style-type: none"><li>• Identify and compare the suitability of a variety of everyday materials for particular purposes</li><li>• Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</li></ul>
Y3	<ul style="list-style-type: none"><li>• Compare how things move on different surfaces</li><li>• Notice that some forces need contact between two objects, but that magnetic forces can act at a distance</li><li>• Observe how magnets repel or attract each other and attract some materials but not others</li><li>• Compare and group together a variety of every day materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</li></ul>



	<ul style="list-style-type: none"> <li>• Describe magnets as having two poles</li> <li>• Predict whether two magnets will repel or attract each other – depending on which poles are facing</li> </ul>
Y4	
Y5	<ul style="list-style-type: none"> <li>• Explain the force of gravity making unsupported objects fall towards the earth</li> <li>• Identify the effects of air resistance, water resistance and friction that act between moving surfaces</li> <li>• Recognise that some mechanisms, including pulleys, gears and levers allow a smaller force to have a greater effect</li> </ul>
Y6	<ul style="list-style-type: none"> <li>• Identify the effect of drag forces and why moving objects that are not driven tend to slow down</li> <li>• Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs</li> </ul>

### Living Things and their Habitats

Rec	<p>LINKS – <a href="#">Reception Plants (The Natural World)</a></p> <ul style="list-style-type: none"> <li>• <i>explore the natural world around them, making observations and drawing pictures of plants</i></li> </ul> <p>LINKS – <a href="#">Reception Animals including humans</a></p> <ul style="list-style-type: none"> <li>• <i>explore the natural world around them, making observations and drawing pictures of animals</i></li> </ul>
Y1	<p>LINKS -<a href="#">Y1 - Plants</a></p> <ul style="list-style-type: none"> <li>• <i>identify and name a variety of common wild and garden plants- deciduous and evergreen</i></li> <li>• <i>identify and describe the basic structure of a variety of common flowering plants , including trees</i></li> </ul> <p>LINKS -<a href="#">Y1 – Animals including humans</a></p> <ul style="list-style-type: none"> <li>• <i>identify and name a variety of animals including fish, amphibians, reptiles, birds and mammals</i></li> <li>• <i>identify those that are carnivores, herbivores and omnivores.</i></li> <li>• <i>Describe and compare the structure of a variety of common animals.</i></li> <li>• <i>Identify, draw, name and label the basic parts of the human body and link to senses.</i></li> </ul>
Y2	<ul style="list-style-type: none"> <li>• <b>Explore and compare the differences between things that are living, dead, and things that have never been alive</b></li> <li>• <b>Identify that most living things live in habitats to which they are suited and provide them with their basic needs, and how they depend on each other</b></li> <li>• <b>Identify and name a variety of plants and animals in their habitats including micro- habitats</b></li> <li>• <b>Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain</b></li> <li>• <b>Identify and name different sources of food</b></li> </ul> <p><a href="#">LINKS – Y2 Plants</a></p> <ul style="list-style-type: none"> <li>• <i>observe and describe how seeds and bulbs grow into mature plants</i></li> </ul>



	<ul style="list-style-type: none"><li>• <i>find out and describe how plants need water , light and a suitable temperature to grow and stay healthy</i></li></ul> <p><u>LINKS -Y2 - <a href="#">Animals including Humans</a></u></p> <ul style="list-style-type: none"><li>• Notice that animals have offspring which grow into adults</li><li>• <i>Find out about and describe the basic needs of animals for survival (water, food and air)</i></li></ul>
<b>Y3</b>	<p><u>LINKS -Y3 - <a href="#">Plants</a></u></p> <ul style="list-style-type: none"><li>• <i>Identify and describe the different functions of different parts of flowering plants : roots, stem/trunk, leaves and flowers, including the part that they play in the life cycle of flowering plants – pollination, seed formation and dispersal</i></li><li>• <i>explore the requirements of plants for life and growth and how they vary from plant to plant</i></li><li>• <i>Investigate the way in which water is transported</i></li><li>• <i>Explore the part that flowers play in the lifecycle of a flowering plant, including pollination, seed formation and seed dispersal</i></li></ul> <p><u>LINKS -Y3 - <a href="#">Animals including Humans</a></u></p> <ul style="list-style-type: none"><li>• <i>Identify that animals including humans need the right types and amount of nutrition and that they cannot make their own food: they get nutrition from what they eat.</i></li></ul>
<b>Y4</b>	<ul style="list-style-type: none"><li>• <b>Recognise that living things can be grouped in a variety of ways</b></li><li>• <b>Explore and use classification keys to help group, identify and name a variety of living things locally and more widely in the environment</b></li><li>• <b>Recognise that environments can change and that this can pose danger to living things</b></li></ul> <p><u>LINKS - Y4 –<a href="#">Animals including Humans</a></u></p> <ul style="list-style-type: none"><li>• <i>Construct and interpret a variety of food chains</i></li><li>• <i>Identify producers, predators and prey</i></li><li>• <i>Describe the simple functions of the basic parts of the digestive system in humans</i></li><li>• <i>Identify the different types of teeth in humans and their simple functions</i></li></ul>
<b>Y5</b>	<ul style="list-style-type: none"><li>• <b>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</b></li><li>• <b>Describe the life process of reproduction in some plants and animals</b></li></ul> <p><u>LINKS - Y5 - <a href="#">Animals including Humans</a></u></p> <ul style="list-style-type: none"><li>• Describe the changes as humans develop from birth to old age</li></ul>
<b>Y6</b>	<ul style="list-style-type: none"><li>• <b>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals</b></li><li>• <b>Give reasons for classification based on specific characteristics</b></li></ul> <p><u>LINKS - Y6 - <a href="#">Evolution and Inheritance</a></u></p> <ul style="list-style-type: none"><li>• Recognise that living things have changed over time and that fossils provide information about living things on earth millions of years ago</li><li>• Recognise that living things produce off-spring of the same kind, but not normally identical to parents</li><li>• Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</li></ul>



## Rocks

<b>Rec</b>	LINKS – Reception – <a href="#">The Natural World</a> <ul style="list-style-type: none"><li>• Explore the natural world around them</li></ul>
<b>Y1</b>	LINKS - Y1 – <a href="#">Everyday materials</a> <ul style="list-style-type: none"><li>• Distinguish between an object and the material it is made from</li><li>• Identify and name a variety of everyday materials, including wood, glass, plastic, metal, water and <i>rock and describe their physical properties</i></li><li>• <i>Compare and group everyday materials on basis of simple physical properties</i></li></ul>
<b>Y2</b>	
<b>Y3</b>	<ul style="list-style-type: none"><li>• <b>Compare and group together different types of rocks based on appearance and simple physical properties</b></li><li>• <b>Describe how fossils are formed</b></li><li>• <b>Recognise that soils are made from rocks and organic matter</b></li></ul>
<b>Y4</b>	
<b>Y5</b>	LINKS -Y5 - <a href="#">Use of every day materials- properties and changes (including those that form new materials – Y6)</a> <ul style="list-style-type: none"><li>• <i>Compare and group everyday materials on basis of properties – hardness, solubility, transparency, conductivity, and response to magnets</i></li><li>• <i>Know that some materials will dissolve to form a solution</i></li><li>• Describe how to recover a substance from a solution</li><li>• <i>Use knowledge of solids, liquids and gases to describe how mixtures might be separated – filtering, sieving and evaporating</i></li><li>• <i>Give reasons based on evidence from comparative and fair tests, for the particular uses of everyday materials – metals – woods- plastic</i></li><li>• <i>Demonstrate dissolving, mixing and changes of state are reversible changes</i></li><li>• <i>Explain that some changes result in the formation of new materials, and this is not usually reversible</i></li></ul>
<b>Y6</b>	LINKS - Y6 - <a href="#">Evolution and Inheritance</a> <ul style="list-style-type: none"><li>• <i>Recognise that living things have changed over time and that fossils provide information about living things on earth millions of years ago</i></li><li>• <i>Recognise that living things produce off-spring of the same kind, but not normally identical to parents</i></li><li>• <i>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</i></li></ul>



## Materials – everyday/properties and changes/States of matter

Rec	<ul style="list-style-type: none"><li>• <b>Understand some important processes and changes in the natural world around them, including changing states of matter.</b></li></ul>
Y1	<ul style="list-style-type: none"><li>• <b>Distinguish between an object and the material it is made from</b></li><li>• <b>Identify and name a variety of everyday materials, including wood, glass, plastic, metal, water and rock and describe their physical properties</b></li><li>• <b>Compare and group everyday materials on basis of simple physical properties</b></li></ul>
Y2	<ul style="list-style-type: none"><li>• <b>Identify and compare the suitability of a variety of everyday materials for particular purposes</b></li><li>• <b>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending , twisting and stretching</b></li></ul>
Y3	<p>LINKS -Y3 - <a href="#">Rocks</a></p> <ul style="list-style-type: none"><li>• <i>Compare and group together different types of rocks based on appearance and simple physical properties</i></li><li>• Describe how fossils are formed</li><li>• Recognise that soils are made from rocks and organic matter</li></ul> <p>LINKS -Y3 – <a href="#">Light</a></p> <ul style="list-style-type: none"><li>• Recognise that they need light in order to see things and that dark is the absence of light</li><li>• <i>Notice that light is reflected from surfaces</i></li><li>• Recognise that light from the sun can be dangerous and that there are ways to protect their eyes</li><li>• <i>Recognise that shadows are formed when the light from a light source is blocked by a solid object</i></li><li>• Find patterns in the way that the size of shadows change</li></ul> <p>LINKS -Y3 - <a href="#">Forces and Magnets</a></p> <ul style="list-style-type: none"><li>• Compare how things move on different surfaces</li><li>• Notice that some forces need contact between two objects, but that magnetic forces can act at a distance</li><li>• <i>Observe how magnets repel or attract each other and attract some materials but not others</i></li><li>• <i>Compare and group together a variety of every day materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</i></li><li>• <i>Describe magnets as having two poles</i></li><li>• <i>Predict whether two magnets will repel or attract each other – depending on which poles are facing</i></li></ul>
Y4	<ul style="list-style-type: none"><li>• <b>Compare and group materials together – solids, liquids and gases</b></li><li>• <b>Observe changes of state during heating and cooling and measure/research temperatures at which this happens (Celsius)</b></li><li>• <b>Identify the part played by evaporation and condensation in the water cycle.</b></li><li>• <b>Associate the rate of evaporation with temperature</b></li></ul> <p>LINKS -Y4 –<a href="#">Electricity</a></p> <ul style="list-style-type: none"><li>• Identify common appliances that run on electricity</li><li>• Construct a simple series electrical circuit, identifying and naming basic parts – cells, wires, bulbs, switches and buzzers</li><li>• Identify whether or not a lamp will light in a simple series circuit –based on whether or not the lamp is part of a complete loop with a battery</li><li>• Recognise that a switch opens and closes a circuit</li><li>• <i>Recognise some common conductors and insulators. Identify metals as good conductors</i></li></ul>



Y5	<ul style="list-style-type: none"> <li>• Compare and group everyday materials on basis of properties – hardness, solubility, transparency, conductivity, and response to magnets</li> <li>• Know that some materials will dissolve to form a solution</li> <li>• Describe how to recover a substance from a solution</li> <li>• Use knowledge of solids, liquids and gases to describe how mixtures might be separated – filtering, sieving and evaporating</li> <li>• Give reasons based on evidence from comparative and fair tests, for the particular uses of everyday materials – metals – woods- plastic</li> <li>• Demonstrate dissolving, mixing and changes of state are reversible changes</li> <li>• Explain that some changes result in the formation of new materials, and this is not usually reversible</li> </ul>
Y6	<ul style="list-style-type: none"> <li>• Explain that some changes result in the formation of new materials, and this is not usually reversible</li> </ul>

### Light

Rec	LINKS – Reception – <a href="#">Seasonal Changes (The Natural World)</a> <ul style="list-style-type: none"> <li>• understand some important processes and changes in the natural world around them, including the seasons</li> </ul>
Y1	LINKS - Y1 - <a href="#">Seasonal Changes</a> <ul style="list-style-type: none"> <li>• observe changes across four seasons</li> <li>• observe and describe weather associated with the seasons and how day length varies</li> </ul>
Y2	LINKS -Y2 - <a href="#">Plants</a> <ul style="list-style-type: none"> <li>• observe and describe how seeds and bulbs grow into mature plants</li> <li>• find out and describe how plants need water , light and a suitable temperature to grow and stay healthy</li> </ul>
Y3	<ul style="list-style-type: none"> <li>• <b>Recognise that they need light in order to see things and that dark is the absence of light</b></li> <li>• <b>Notice that light is reflected from surfaces</b></li> <li>• <b>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes</b></li> <li>• <b>Recognise that shadows are formed when the light from a light source is blocked by a solid object</b></li> <li>• <b>Find patterns in the way that the size of shadows change</b></li> </ul> LINKS -Y3 - <a href="#">Plants</a> <ul style="list-style-type: none"> <li>• Identify and describe the different functions of different parts of flowering plants : roots, stem/trunk, leaves and flowers, including the part that they play in the life cycle of flowering plants – pollination, seed formation and dispersal</li> <li>• explore the requirements of plants for life and growth and how they vary from plant to plant</li> <li>• Investigate the way in which water is transported</li> <li>• Explore the part that flowers play in the lifecycle of a flowering plant, including pollination, seed formation and seed dispersal</li> </ul>
Y4	
Y5	LINKS Y5 - <a href="#">Earth and Space</a> <ul style="list-style-type: none"> <li>• Describe the movement of the Earth and other planets, relative to the Sun</li> <li>• Describe the movement of the Moon relative to the Earth</li> <li>• Describe the Earth, Sun and Moon as approximate spherical bodies</li> </ul>





	<ul style="list-style-type: none"><li>• Use the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</li></ul>
Y6	<ul style="list-style-type: none"><li>• <b>Recognise that light appears to travel in straight lines and that objects are seen because they give out or reflect light into the eye</b></li><li>• <b>Know that we see things because light travels from light sources to our eyes, or from light sources to objects and then to our eyes</b></li><li>• <b>Use the idea that light travels in straight lines to explain that shadows have the same shape as the objects that cast them</b></li></ul>



## Sound

<b>Y1</b>	<p>LINKS -Y1 – <u>Animals including humans</u></p> <ul style="list-style-type: none"><li>• identify and name a variety of animals including fish, amphibians, reptiles, birds and mammals</li><li>• identify those that are carnivores, herbivores and omnivores.</li><li>• Describe and compare the structure of a variety of common animals.</li><li>• <i>Identify, draw, name and label the basic parts of the human body and link to senses.</i></li></ul> <p>LINKS -Y1 – <u>Everyday materials</u></p> <ul style="list-style-type: none"><li>• <i>Distinguish between an object and the material it is made from</i></li><li>• <i>Identify and name a variety of everyday materials, including wood, glass, plastic, metal, water and rock and describe their physical properties</i></li><li>• <i>Compare and group everyday materials on basis of simple physical properties</i></li></ul>
<b>Y2</b>	
<b>Y3</b>	
<b>Y4</b>	<ul style="list-style-type: none"><li>• <b>Identify how sounds are made, associating some of them with something vibrating</b></li><li>• <b>Recognise that vibrations from sounds travel through a medium to the ear</b></li><li>• <b>Find patterns between pitch of a sound and the features of the object that produced it</b></li><li>• <b>Find patterns between the volume of a sound and the strength of the vibrations that produced it</b></li><li>• <b>Recognise that sound gets fainter as the distance from the sound increases</b></li></ul>
<b>Y5</b>	
<b>Y6</b>	

## Electricity

<b>Y1</b>	
<b>Y2</b>	
<b>Y3</b>	
<b>Y4</b>	<ul style="list-style-type: none"><li>• <b>Identify common appliances that run on electricity</b></li><li>• <b>Construct a simple series electrical circuit, identifying and naming basic parts – cells, wires, bulbs, switches and buzzers</b></li><li>• <b>Identify whether or not a lamp will light in a simple series circuit –based on whether or not the lamp is part of a complete loop with a battery</b></li><li>• <b>Recognise that a switch opens and closes a circuit</b></li><li>• <b>Recognise some common conductors and insulators. Identify metals as good conductors</b></li></ul>
<b>Y5</b>	
<b>Y6</b>	<ul style="list-style-type: none"><li>• <b>Associate the brightness of a lamp or volume of a buzzer with the number and voltage of the cells used in the circuit</b></li><li>• <b>Compare and give reasons for how components function- brightness of bulbs, loudness of buzzers etc</b> <b>Use recognised symbols when representing a simple circuit in a diagram</b></li></ul>



## Evolution and Inheritance

<b>Y1</b>	<p>Y1 - <a href="#">Seasonal Changes</a></p> <ul style="list-style-type: none"><li>• observe changes across four seasons</li><li>• observe and describe weather associated with the seasons and how day length varies</li></ul> <p>Y1 - <a href="#">Plants</a></p> <ul style="list-style-type: none"><li>• identify and name a variety of common wild and garden plants- deciduous and evergreen</li><li>• identify and describe the basic structure of a variety of common flowering plants , including trees</li></ul> <p>Y1 – <a href="#">Animals including humans</a></p> <ul style="list-style-type: none"><li>• identify and name a variety of animals including fish, amphibians, reptiles, birds and mammals</li><li>• identify those that are carnivores, herbivores and omnivores.</li><li>• Describe and compare the structure of a variety of common animals.</li><li>• Identify, draw, name and label the basic parts of the human body and link to senses.</li></ul>
<b>Y2</b>	<p>Y2 - <a href="#">Plants</a></p> <ul style="list-style-type: none"><li>• observe and describe how seeds and bulbs grow into mature plants</li><li>• find out and describe how plants need water , light and a suitable temperature to grow and stay healthy</li></ul> <p>Y2 - <a href="#">Living things and their Habitats</a></p> <ul style="list-style-type: none"><li>• Explore and compare the differences between things that are living, dead, and things that have never been alive</li><li>• Identify that most living things live in habitats to which they are suited and provide them with their basic needs, and how they depend on each other</li><li>• Identify and name a variety of plants and animals in their habitats including micro- habitats</li><li>• Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain</li><li>• Identify and name different sources of food</li></ul> <p>Y2 - <a href="#">Animals including Humans</a></p> <ul style="list-style-type: none"><li>• Notice that animals have offspring which grow into adults</li><li>• Find out about and describe the basic needs of animals for survival (water, food and air)</li></ul>
<b>Y3</b>	<p>Y3 - <a href="#">Plants</a></p> <ul style="list-style-type: none"><li>• Identify and describe the different functions of different parts of flowering plants : roots, stem/trunk, leaves and flowers, including the part that they play in the life cycle of flowering plants – pollination, seed formation and dispersal</li><li>• explore the requirements of plants for life and growth and how they vary from plant to plant</li><li>• Investigate the way in which water is transported</li><li>• Explore the part that flowers play in the lifecycle of a flowering plant, including pollination, seed formation and seed dispersal</li></ul> <p>Y3 - <a href="#">Animals including Humans</a></p> <ul style="list-style-type: none"><li>• Identify that animals including humans need the right types and amount of nutrition and that they cannot make their own food: they get nutrition from what they eat</li></ul> <p>Y3 - <a href="#">Rocks</a></p> <ul style="list-style-type: none"><li>• Compare and group together different types of rocks based on appearance and simple physical properties</li></ul>



	<ul style="list-style-type: none"><li>• Describe how fossils are formed</li><li>• Recognise that soils are made from rocks and organic matter</li></ul>
Y4	<p>Y4 - <a href="#">Living things and their Habitats</a></p> <ul style="list-style-type: none"><li>• Recognise that living things can be grouped in a variety of ways</li><li>• Explore and use classification keys to help group, identify and name a variety of living things locally and more widely in the environment</li><li>• Recognise that environments can change and that this can pose danger to living things</li></ul> <p>Y4 - <a href="#">Animals including Humans</a></p> <ul style="list-style-type: none"><li>• Construct and interpret a variety of food chains</li><li>• Identify producers, predators and prey</li><li>• Describe the simple functions of the basic parts of the digestive system in humans</li><li>• Identify the different types of teeth in humans and their simple functions</li></ul>
Y5	<p>Y5 - <a href="#">Living things and their Habitats</a></p> <ul style="list-style-type: none"><li>• Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</li><li>• Describe the life process of reproduction in some plants and animals</li></ul> <p>Y5 - <a href="#">Animals including Humans</a></p> <ul style="list-style-type: none"><li>• Describe the changes as humans develop from birth to old age</li></ul>
Y6	<ul style="list-style-type: none"><li>• <b>Recognise that living things have changed over time and that fossils provide information about living things on earth millions of years ago</b></li><li>• <b>Recognise that living things produce off-spring of the same kind, but not normally identical to parents</b></li><li>• <b>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</b></li></ul> <p>LINKS -Y6 - <a href="#">Living things and their Habitats</a></p> <ul style="list-style-type: none"><li>• Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals</li><li>• Give reasons for classification based on specific characteristics</li></ul> <p>LINKS -Y6 - <a href="#">Animals including Humans</a> (teach in Y5)</p> <ul style="list-style-type: none"><li>• Describe the ways in which nutrients and water are transported in animals, including humans</li><li>• Identify and name the main part of the human circulatory system and describe the functions of the heart, blood vessels and blood.</li><li>• Recognise the impact of diet, exercise, drugs and lifestyle on the way that bodies function.</li></ul>